

January 2023



The McHale Report, by militaryembedded.com Editorial Director John McHale, covers technology and procurement trends in the defense and aerospace electronics community. [View our archive](#) of recent and past issues of the McHale Report e-mail newsletter.

EDITOR'S PERSPECTIVE

Open standards spell a departure from bloated defense budgets



Do you miss the U.S. defense budgets of yore, where costs for programs skyrocketed into the billions and overall defense

spending reached into the trillions? Where cost was not a concern, only a capability? If you're pining for those days, then you probably don't want to read our Nov/Dec issue.

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TOP STORY

Quantum-computing agreement signed between NRL, AFRL



The U.S. Naval Research Laboratory (NRL) and the 14 Naval Warfare Centers signed a memorandum of understanding

with the Air Force Research Laboratory (AFRL) Information Directorate in the area of quantum computing in order to exchange technical expertise collaborate on projects that will create useful quantum computing capabilities for the U.S. Department of Defense (DoD).

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TOP STORY

Top 10 military electronics stories of 2022



The most popular stories on MilitaryEmbedded.com throughout 2022 covered subjects such as hypersonic missile detection, a 10-

year contract for a fire-control system, the future battlefield, and more. Check them out below.

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TOP STORY

Is high-performance electronic warfare compatible with open standards?



Today, multiple agencies are involved in open architecture standards to ensure that weapons and defense system features

match up with their perception of future systems specified and beginning to be used by the U.S. Department of Defense (DoD).

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[New RFSoc Gen 3 PCIe Board Offers RF Flexibility](#)

The Mercury Quartz® [Model 7053](#) is a high-performance 8-Channel A/D & D/A PCIe board based on the Xilinx® Zynq® UltraScale+™ RFSoc. The Model 7053 supports direct RF sampling using 5 GS/sec 14-bit ADCs and eight 10 GS/sec 14-bit DACs, both supporting analog signals up to 6 GHz. Each data converter has built-in digital downconverters or upconverters with programmable decimation and interpolation up to 40x and independent tuning for increased RF flexibility and frequency planning. The Model 7053 is ideal for 5G and LTE wireless, SIGINT, EW,

MARKET RESEARCH

C4ISR market to grow by more than \$60 billion over this decade: report



The global market for command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) will be worth \$178.74 billion by 2030 for a compound annual growth rate of 4.84%, a new report predicts.

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TOP STORY

Hypersonic missile work for U.S. Air Force to be performed by Kratos



Leidos has chosen Kratos to support the Expendable Hypersonic Multi-Mission ISR (intelligence, surveillance, and reconnaissance) and Strike Program -- a program known as Mayhem -- under an Air Force Research Laboratory project to develop an air-breathing hypersonic weapon system, Kratos announced in a statement.

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TOP STORY

CMOSS vehicle navigation tech to be demonstrated for U.S. Army by ANELLO

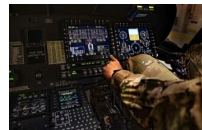


ANELLO Photonics has won a contract from the U.S. Army to provide vehicle navigation solutions compliant with the C5ISR/Electronic Warfare Modular Open Suite of Standards (CMOSS), the company announced in a statement.

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2022 AVIONICS COVERAGE

Top avionics stories of 2022



The top avionics stories on MilitaryEmbedded.com for 2022 covered the VPX ecosystem, how open systems streamline helicopter avionics upgrades, zero trust in military embedded systems, and more. Check them out.

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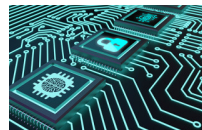
PRODUCT OF THE WEEK: Kimdu's avionics protocol converter



This week's product, Kimdu's GPCU, is a flight-qualified avionics protocol converter, that targets fixed wing, helicopter, ground, and naval applications. The new product is released and being delivered to customers.

TOP STORY

Microelectronics research to be led by DARPA, U.S. universities



DARPA announced that it will participate in a new long-term university research collaboration with the Semiconductor Research Corporation (SRC) and a consortium of companies in the defense and commercial semiconductor industries,

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called the Joint University Microelectronics Program 2.0 (JUMP 2.0).

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TOP STORY

Missile Track Custody contract for U.S. Space Force won by Raytheon



Raytheon Intelligence & Space has won a contract to develop a prototype Missile Track Custody system -- a Medium Earth Orbit missile tracking system -- for the U.S. Space Force, the company announced in a statement.

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2022 AI COVERAGE

Top 10 military AI stories of 2022




The most popular military artificial intelligence (AI) stories on MilitaryEmbedded.com throughout 2022 highlighted AI and machine learning innovations for defense such as IoT on the battlefield, using AI to speed up human decision-making, swarm technology, and more. Check them.

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2022 RADAR/ EW COVERAGE

Top 10 radar and electronic warfare stories of 2022



The most popular radar and electronic warfare (EW) stories on militaryembedded.com throughout 2022 covered subjects such as hypersonic missile detection, a fire-control system contract, a high-energy laser prototype, and more. Check them out below.

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TOP STORY

Air surveillance radars for Ukraine to be provided by Hensoldt



Riverside Research has won a contract from the Air Force Research Laboratory for Microelectronics and Embedded System Assurance (MESA) research and development, according to a statement from the company.

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TOP STORY

New power device for LEO satellites unveiled by Microchip Technology

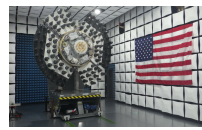


Microchip Technology has announced the release of a new commercial-off-the-shelf (COTS) rad-tolerant power device targeting the low-Earth orbit (LEO) satellite market and other space applications, the company announced in a statement.

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TOP STORY

GPS-alternative satellite delivered to AFRL for testing



L3Harris Technologies recently delivered the Navigation Technology Satellite-3 (NTS-3) space vehicle -- a satellite billed as an alternative to GPS -- to the Air Force Research Laboratory (AFRL) integration and test facility at Kirtland Air Force Base, New Mexico.

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SPONSORED WHITE PAPER

Processing Evolution for the Future Electronic Battlespace



To be effective in the field, AI-driven capabilities require reliable, near-real time operation in electronically contested environments. Advanced sensor processing systems powered by new, more sophisticated RF processing capabilities can be located closer to the RF apertures and ingest substantially increased amounts of sensor data.

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SPONSORED WHITE PAPER

How to Select the Right Type of EMI Filter for Harsh Environment Operation



When your system fails MIL-STD-461 compliance, it can mean major timeline and budget setbacks – but traditional aftermarket filter solutions cause additional weight and functionality changes.

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